

Attachment 208

REBUTTAL EXPERT REPORT OF MARSHINI CHETTY, PhD

Executive Summary

Based on my reading of the reports of Amazon’s experts, the work I did in preparation of my own expert report, and my review of the documents and data in this matter, I have reaffirmed the opinions and conclusions I laid out in my Expert Report dated February 24, 2025 (the “Chetty Report”):

- The design of how Amazon enrolls consumer in Prime (the Prime detours) during online checkout can confuse consumers into unintentionally enrolling in Prime because the design violates good design principles;
- The design of how Amazon enrolls consumers in Prime during online checkout does not convey information on Prime’s material terms (cost, end of free trial period if applicable, and renewal terms) in a way that consumers are likely to comprehend; and
- The design of the Iliad and Iliad 2.0 cancellation processes can confuse consumers because they contain too many unnecessary steps and use manipulative designs to prevent consumers from cancelling their Prime subscriptions.

The flawed studies and analyses conducted by Drs. Hoffman, Rosenberg, and Wilcox—and the inherently flawed conclusions they reached—do not alter my opinions or conclusions. Specifically, Drs. Hoffman, Rosenberg, and Wilcox do not have the appropriate background or expertise in Human Computer Interaction (“HCI”) to conduct the analyses they attempt in their expert reports. Additionally, Drs. Hoffman and Wilcox do not apply a principled methodology to their studies or analyses. Dr. Hoffman does not even refer to a methodology in her analysis of the Amazon checkout and Iliad interfaces. Her comparison of Prime with other subscription programs also does not follow a well-established methodology, as she proceeds to compare specific design issues outside of their respective contexts. Similarly, Dr. Wilcox’s cancellation survey and free trial survey are also flawed, as he does not apply a principled methodology to either study. Finally, despite the lack of a principled methodology, the results of Drs. Hoffman and Wilcox’s studies actually affirm my conclusions.

TABLE OF CONTENTS

| | | |
|-------|---|----|
| I. | Introduction..... | 5 |
| II. | Drs. Hoffman and Rosenberg Do Not Have the Necessary Expertise in HCI (and UX Design) to Analyze the Design of the Prime Detours in the Checkout Flow or the Iliad Cancellation Process. | 5 |
| III. | Dark Patterns Are Well-Defined and Supported by Scholarly Consensus..... | 7 |
| | a. HCI Scholars and Researchers Have Defined “Dark Patterns” and Use Specific Criteria to Analyze Interfaces for these Design Choices. | 7 |
| | b. Context matters when it comes to dark patterns. | 8 |
| | c. Marketers’ Intent is Irrelevant to a Design Analysis..... | 11 |
| | d. Drs. Hoffman and Rosenberg Mischaracterize Studies on Dark Patterns | 11 |
| IV. | Dr. Hoffman’s Analysis of the Prime Detours in Amazon’s Online Checkout and the Iliad Cancellation Process Is Unreliable. | 13 |
| | a. Dr. Hoffman does not present a methodology for her analysis of either the Prime detours in online checkout or the Iliad cancellation process | 13 |
| | b. Dr. Hoffman’s analysis of Prime enrollment detours in online checkout is wrong | 13 |
| | c. Dr. Hoffman’s Analysis of Iliad is wrong | 15 |
| | d. Dr. Hoffman’s Assumptions of Mobile Flows are wrong. | 17 |
| V. | Dr. Hoffman’s Comparison of Prime to Other “Popular Paid Digital Membership/Subscription Programs” is Flawed. | 17 |
| | a. Dr. Hoffman does not apply a principled methodology in comparing Prime enrollment and cancellation processes to other online subscription programs. | 17 |
| | b. Dr. Hoffman’s Skewed Study of Prime and Other “Popular Paid Digital Membership/Subscriptions Programs” Still Shows that the Design of the Prime Detours in Checkout and the Prime Cancellation Processes Are Problematic. | 21 |
| VI. | Dr. Hoffman’s Comparison of Prime to Government Websites Is Flawed. | 22 |
| VII. | Dr. Wilcox’s Cancellation Survey to “Assess the Extent to which Prime Members Can Locate and Complete the Desktop Version of the Cancellation Flow on Amazon.com” is Flawed. | 23 |
| | a. The Setup and Implementation of the Cancellation Stimulus Skewed its Results | 23 |
| | b. The Cancellation Survey’s Skewed Results Still Shows that It Is Not Simple Consumers to Complete the Cancellation Process on Iliad | 27 |
| VIII. | Dr. Wilcox’s Free Trial Survey is Flawed..... | 27 |

IX. Consumers Who Successfully Cancel their Prime Membership on Iliad or Iliad 2.0 Have
to Consciously Navigate Through a Significant Amount of Information to Get to the Cancellation
Survey. 28

I. Introduction

1. On February 24, 2025, I filed an expert report in this matter (the “Chetty Report”)¹ pursuant to the Federal Trade Commission’s (“FTC”) request. My qualifications as an expert and my current CV were provided as part of my report in this matter.
2. The FTC asked me to evaluate the expert reports submitted by Dr. Donna L. Hoffman, Dr. Ronald T. Wilcox, Dr. Craig Rosenberg, and Dr. Ran Kivetz, on behalf of Amazon.com, Inc. in *FTC v. Amazon, Inc.*, Case No. 2:23-cv-0932-JHC (W.D. Wash.). This rebuttal report responds to certain issues raised by these experts in their reports, but it is not intended to be a comprehensive response to their opinions. Specifically, in my rebuttal report, I focus on (i) Drs. Hoffman and Rosenberg’s opinions on the definition of “dark patterns,” (ii) Dr. Hoffman’s opinions on the Prime detours in Amazon’s online checkout flow and the Iliad cancellation process, (iii) Dr. Hoffman’s comparison of the Prime detours and Iliad cancellation process to the enrollment and cancellation mechanisms of other “popular paid digital memberships” and to government websites, (iv) Dr. Wilcox’s cancellation survey, (v) Dr. Wilcox’s free trial survey, and (vi) Dr. Kivetz’s opinion on the reliability of consumers who respond to a cancellation survey after cancelling their Prime subscription on Iliad or Iliad 2.0, as discussed in Paragraphs 56-66 and 343-353 in his report.
3. In preparing my rebuttal report, I have relied upon the documents identified in my Report, Amazon’s expert reports, and the attachments referenced in Section IX. I reserve the right to update my analysis as further information becomes available in this matter. Further, I will continue to review the record, including evidence developed since my initial report, prior to my testimony.

II. Drs. Hoffman and Rosenberg Do Not Have the Necessary Expertise in HCI (and UX Design) to Analyze the Design of the Prime Detours in the Checkout Flow or the Iliad Cancellation Process.

4. As I explained in my Report, Human Computer Interaction (HCI) is a multidisciplinary field spanning computer science, psychology, sociology, and design that focuses on the interaction between people and computer technologies. Chetty Report ¶ 30. The purpose of HCI is, in part, to determine whether the design of a computing technology allows people to achieve their goals on that interface. Chetty Report ¶ 30. While researchers with a non-HCI background or expertise can study a subscription’s enrollment and cancellation mechanisms for different reasons, i.e., marketing experts can study an

¹ The reference numbers in the initial report were mismatched with the relevant references. I will shortly provide the FTC with a version that includes reference numbers that are properly matched with the relevant references. That version of the report will contain no other changes.

enrollment or cancellation mechanism for the effectiveness of certain marketing designs or tools, an HCI expertise is necessary to assess user interfaces from a *user's* (or consumer's) perspective and determine whether the design of an interface allows the user to achieve their goal (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Norman, 2013; Sharp et al., 2023; Shneiderman et al., 2016). For instance, HCI experts can analyze a user interface to determine whether the interface causes consumers confusion and prevents them from achieving their goal (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Norman, 2013; Sharp et al., 2023; Shneiderman et al., 2016).

5. Dr. Hoffman does not have a background in HCI. Her expertise and degrees are focused on marketing, which is different from HCI and its subcategory UX design. *See, e.g.*, Hoffman Report ¶¶ 1, 4-16; Appendix A. Her lack of HCI expertise permeates her report, as her methodologies are flawed and inconsistent with HCI practices, and, consequently, the results of her studies are skewed and hard to interpret with respect to whether the Amazon Prime online checkout with its Prime detours² and cancellation mechanisms allow consumers to achieve their goals. *See infra*, at §§ IV and V.

6. Dr. Rosenberg's user design experience seems to be too general and unrelated to consumers' online shopping experiences to give weight to his opinions on the design issues of the Prime detours in the online checkout flow. Dr. Rosenberg's CV (Rosenberg Report Appendix A) does not reveal much experience in HCI or UX design specifically from a consumer's perspective. Dr. Rosenberg is primarily an expert in Human Factors, which he describes as "a multidisciplinary field that studies how people interact with machines, technology, and their environment. It combines engineering, psychology, science, and design to create safer, more effective and efficient systems." Rosenberg Report ¶ 1 n.1. Dr. Rosenberg's professional experience reflects his focus on Human Factors but very little, if any, experience in the last 20 years studying how consumers interact with interfaces to achieve their goals. For instance, Dr. Rosenberg has "consulted for The Boeing Company for over 16 years as a senior human factors engineer, user interface designer, and software architect for a wide range of advance commercial and military programs," which included projects involving "advance software development, user interface design, agent-based software, and modeling and simulations in the areas of missile defense, homeland security, battle command management, computer aided design, networking and communications, air traffic control, location-based services, and Unmanned Aerial Vehicle command and control." Rosenberg Report ¶ 6. Rosenberg's experience with user interface design in the context of Boeing is very different from the experience needed to evaluate how consumers interact with Prime's enrollment and

² *See* Chetty Report ¶ 26.

cancellation mechanisms. The most obvious point is that consumers have vastly different goals using online shopping interfaces than The Boeing Company’s employees or contractors using their traffic control or missile defense interfaces, for instance. Dr. Rosenberg also does not appear to have conducted any publications or research projects on UX design for consumers. (App. A).

III. Dark Patterns Are Well-Defined and Supported by Scholarly Consensus.

7. Drs. Hoffman and Rosenberg both assert that dark patterns lack standards and are vague and subjective. Specifically, according to Dr. Hoffman, “the concept of ‘dark patterns’ is based on a nebulous and subjective construct lacking in reliability and validity” and the literature discussing “dark patterns” is “devoid of rigorous scientific approaches.” Hoffman Report ¶ 50. Similarly, Dr. Rosenberg opines that there is an “absence of universally accepted criteria for what constitutes a ‘dark pattern,’” Rosenberg Report ¶ 20. Both academics argue that the line between “legitimate marketing practices” or “persuasion” and dark patterns is hard to draw. Hoffman ¶ 61; Rosenberg Report ¶ 22.
8. For the reasons listed below, Drs. Hoffman and Rosenberg are incorrect to assert dark patterns lack definitions or standards.
 - a. *HCI Scholars and Researchers Have Defined “Dark Patterns” and Use Specific Criteria to Analyze Interfaces for these Design Choices.*
9. As explained in my expert report, “dark patterns” are clearly defined as user interface design choices that coerce, deceive, or manipulate users into making a decision that, if fully informed or otherwise capable of selecting an alternative, those users would not have made. Chetty Report ¶ 36. (Brignull, 2023; Gray et al., 2018, 2024; Luguri & Strahilevitz, 2021; Mathur et al., 2019). Many scholars and researchers have relied on this definition, which has remained constant in the HCI field (Brignull, 2023; Fagan, 2024; Gray et al., 2024; Kugler et al., 2025; Li et al., 2025; Löbel et al., 2024; Lowens et al., 2025; Mathur et al., 2019, 2021; Mildner et al., 2025; Tran et al., 2024).
10. The name of “dark patterns” itself is not material. In fact, “dark patterns” are also interchangeably called “manipulative designs” or “anti-patterns.” (Alberts et al., 2024; Gray et al., 2021). Hoffman and Rosenberg focus only on dark patterns and the naming conventions associated with these types of manipulative interfaces. *See, e.g.*, Hoffman Report ¶ 60; Rosenberg Report ¶ 22. As my report outlines, regardless of what the design elements in the interfaces of the Amazon online checkout and cancellation process are called, they violate good design principles and manipulate consumers by changing the choice architecture that is available to them, regardless of consumers’ goals. *See* Chetty

Report §§ VI and VII. In short, the naming convention for the design elements does not matter; their *effect* on consumers’ ability to make an informed decision does.

11. While the definition of “dark patterns” has remained constant, academics and researchers have created various taxonomies and ontologies to *categorize* types of dark patterns to better analyze them. The Gray et al. ontology (Gray et al., 2024) (the “Gray Ontology”) is the most comprehensive up to date and used framework that provides a cohesive categorization (organize by high-, meso-, and low-level dark patterns) and explanation of all dark patterns used in HCI literature to date. Chetty Report ¶¶ 49-55. Though it was only published in 2024, the Gray Ontology has already been cited 32 times according to Google Scholar, including by key HCI researchers including Florian Schaub, Jan Borchers, and myself (Lowens et al., 2025; Schäfer et al., 2024; Tran et al., 2024).
12. More importantly, dark patterns are just one lens to evaluate whether an interface follows foundational principles of good design. As laid out in my report, manipulative design choices, i.e. dark patterns, often violate foundational HCI principles of good user experience and interface design because they can interfere with a user’s understanding of the interface and the universe of their options, their knowledge of the consequences of their actions on the interface, and their sense of control of the interface. Chetty Report ¶ 34; see also id. ¶¶ 33, 35.

b. Context matters when it comes to dark patterns.

13. As both Dr. Hoffman and Dr. Rosenberg state, the context in which dark patterns appear matters. See Hoffman Report ¶¶ 39-41 (“consumers do not experience and interact with websites in a vacuum”); Rosenberg Report ¶¶ 21-24 (asserting the impact of dark patterns vary “based on the user’s perspective, intent, and prior experience”).
14. However, Dr. Hoffman does not take important context into consideration when analyzing the online checkout flow’s Prime detours and the cancellation process. For instance, it is very likely that consumers’ primary goal when going through the online checkout flow is to purchase a product on Amazon—not to sign up for Prime. Chetty Report at ¶¶ 181-83. In fact, the FTC asked me to assume that there are other locations on the Amazon website that are solely dedicated to enrolling consumers in Prime, such as

the Prime Homepage location that has no other purpose other than enrolling consumers in Prime. *See* Figure 1.

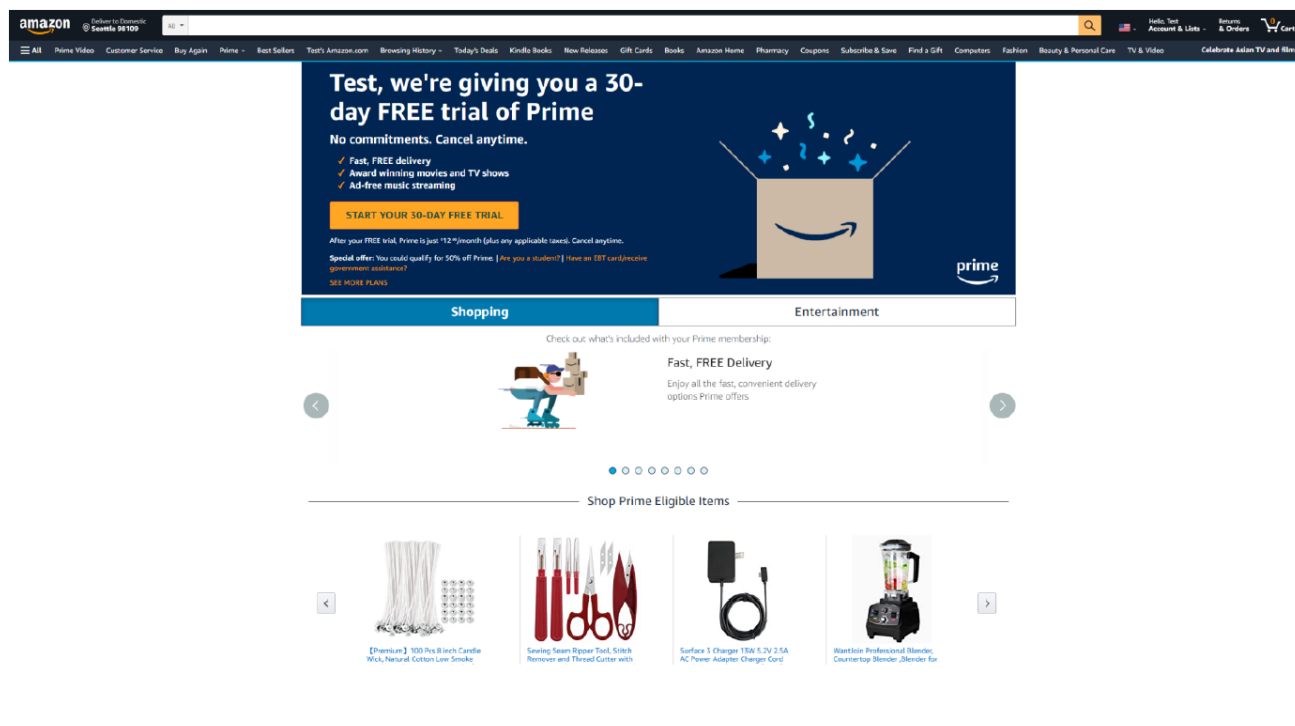


Figure 1: Prime Homepage Free Trial (AMZN_00003614 at page 3)

15. Similarly, it is highly likely that the primary goal of consumers who search for and enter Iliad is, in fact, to cancel Prime—and not to obtain more information on Prime benefits or other Prime plans. It is therefore crucial to consider *how* consumers are operating when they are interacting with the checkout and cancellation interfaces. For instance, are they operating under System 1 or System 2 thinking? *See, e.g.*, Chetty Report at ¶¶ 40-44. Drs. Hoffman and Rosenberg only use the idea of context superficially in their reports.
16. Another key element of context is looking at interfaces in a holistic manner. *See, e.g.*, Chetty Report at ¶ 196. How are all of the design elements present on a page impacting a consumer's ability to make an informed decision or to achieve their goal? Drs. Hoffman and Rosenberg do not address this fundamental idea in their reports.
17. Dr. Hoffman correctly asserts that consumers “learn from previous experiences” in how “they perceive information in subsequent online experiences.” Hoffman Report ¶ 268. However, familiarity with an interface does not mean that a consumer is immune to interfaces that do not provide information for them to make an informed decision or that

are designed in a way to make one choice for them more likely than another, i.e., manipulation. Studies show that even when consumers are familiar with manipulative interfaces, they still fall prey to them (Bongard-Blanchy et al., 2021).

18. Furthermore, Hoffman misstates the relevance of Dr. Wilcox’s free trial survey. Hoffman Report ¶ 44; *see also infra* § VIII. The fact that consumers may know that there are different websites offering free trials does not mean they will understand that they may enroll in a free trial of Prime through Amazon’s checkout process,³ as my cognitive walkthrough of the online checkout process and the user study I conducted revealed. See Chetty Report §§ VI and VIII. Whether a design is a “common marketing practice” does not matter as to whether a design is manipulative, on its own or in combination with others.
19. Both Drs. Hoffman and Rosenberg assert that the line between “legitimate marketing activities” and dark patterns is unclear and subjective. As Dr. Hoffman puts it, the question of whether a design element is a mere persuasion tactic or a dark pattern remains “in the eye of the beholder.” Hoffman Report ¶ 65; *see also id.* ¶¶ 60-61; Rosenberg Report ¶¶ 22-23.
20. Drs. Hoffman and Rosenberg do not offer support of this assertion. While Dr. Hoffman states that “[t]here are a variety of legitimate marketing activities a business can undertake to attempt to persuade consumers to try, purchase, or use its products and/or services,” (Hoffman Report ¶ 52), nowhere in her report does she offer a definition of a “legitimate marketing practice” or even distinguish a “legitimate marketing practice” from a non-legitimate one. Neither does Dr. Rosenberg. This lack of definition and standards is unsurprising because these terms are not ones that experts in the field of HCI use.
21. Marketing practices that do not coerce, deceive, or manipulate users into making a decision that, if fully informed or otherwise capable of selecting an alternative, they would not have made, certainly exist. However, a specific, defined “line” is not necessary to assess whether consumers are able to achieve their goal on an interface; nor is such a “line” possible. First, as I explain above, context matters, so any line drawn would need to be context-specific. Whether an element on an interface is a common marketing practice is irrelevant to experts in the field when analyzing whether that element, in combination with all the other elements displayed on an interface, coerces, deceives, or manipulates users into making a decision that, if fully informed or otherwise

³ This assertion is also irrelevant for Prime hard offers within the checkout flow, as consumers who enroll through a hard offer are immediately charged for Prime. *See* Chetty Report ¶ 127.

capable of selecting an alternative, those users would not have made, are dark patterns (Mathur et al., 2021). Second, as I opine in my report, Amazon's checkout flow and Prime cancellation processes are rife with designs that impact a consumer's choice architecture such that an HCI researcher could not opine that those processes follow fundamental principles of good design. *See* Chetty Report §§ VI-VIII.

c. Marketers' Intent is Irrelevant to a Design Analysis

22. Drs. Hoffman and Rosenberg assert that the marketer's intent should be part of the analysis as to whether a design element is manipulative. *See* Hoffman Report ¶ 62; Rosenberg Report ¶ 32. However, the marketer's intent is irrelevant because designs on an interface can harm consumers by misleading them or restricting their options, for example, *regardless* of the marketer's intent (Mathur et al., 2021). In other words, a marketer's intent as to designs on their interface does not impact the outcomes of consumers navigating such an interface that includes manipulative designs or that does not follow fundamental principles of good design.

d. Drs. Hoffman and Rosenberg Mischaracterize Studies on Dark Patterns

23. Both Drs. Hoffman and Rosenberg identify studies on the effects of dark patterns to undermine the concept of dark patterns. However, in doing so, they mischaracterize the studies to which they refer.
24. There are many studies of the effects of interfaces with dark patterns and without dark patterns on user behaviors which have found that various dark patterns affect consumer choices and behaviors (Bielova et al., 2024; Luguri & Strahilevitz, 2021; Nouwens et al., 2020; Utz et al., 2019). These studies follow the scientific method outlined in Dr. Hoffman's report with: "(i) the variable(s) of interest to measure, (ii) a statistical test to determine whether the variable of interest has any significant impact on outcomes with and without the UI of interest, and (iii) a threshold above which one can conclude that any differences in the variable of interest between the online environments with and without the UI of interest is unlikely to result from chance." Hoffman Report ¶ 67. Some of these studies include those to which Dr. Hoffman refers in her report.
 - a. For instance, Dr. Hoffman argues that the Luguri and Strahilevitz study (2021) did not follow a scientific method because it did not have a variable to measure "consumer confusion" or "companies' intentions" when testing the effect of dark patterns on consumers. Hoffman Report ¶ 70. However, Dr. Hoffman mischaracterizes the study's methodology. The study's goal was to measure whether the presence of certain interface elements or dark patterns alone could change the choices that a consumer made (i.e., to accept or decline a privacy protection plan), as compared to the choices made on a more neutrally-designed

interface, without dark patterns (Luguri & Strahilevitz, 2021). Researchers for this study applied a scientific method to measure the effects of commonly used dark patterns on user choices and observed that users interacting with interfaces containing “mild” and “aggressive” dark patterns altered their behaviors and decisions as compared to when they interacted with more neutrally designed interfaces that had no dark patterns (Luguri & Strahilevitz, 2021). Contrary to Dr. Hoffman’s assertion, the study had a variable of interest to measure “consumer confusion.” Specifically, the study included a baseline condition to observe what options consumers selected on the neutral, dark patterns-less interface (Luguri & Strahilevitz, 2021). The study had a statistical test to determine how the variables (the different levels of mild and aggressive dark patterns) impacted the outcomes, as the researchers then observed how those users’ selected options changed when interacting with the interfaces with different levels of dark patterns.⁴ (Luguri & Strahilevitz, 2021). The study also carefully reports results that are statistically significant, i.e., those are that are not due to chance but owing to the differences in the user interfaces being tested. Companies’ intent was not a variable of the study because, as I explain above, it is irrelevant to studying the effect of dark patterns on consumers. *See supra* § III(d).

- i. Hoffman claims that the researchers should have provided evidence to test whether the interfaces in fact contained mild and aggressive dark patterns. *See* Hoffman Report ¶ 73. However, this study was designed to test this very thing: whether interfaces with known dark patterns are harmful to consumers (which the researchers effectively demonstrated.) (Luguri & Strahilevitz, 2021). Dr. Hoffman’s suggestion that researchers should test whether an interface contains dark pattern, versus “legitimate marketing efforts that persuaded [consumers]” is circular, (Hoffman Report ¶ 70), as one cannot know if a known dark pattern is manipulative or harmful unless one tests users’ responses to being exposed to an interface with that known dark pattern—which is what these researchers (and many others that I cite in my report) did.
- b. In another example, Dr. Hoffman also mischaracterizes the DiGeronimo et al study. *See* Hoffman Report ¶ 71. The goal of this study was not to observe how dark patterns affected users but rather to observe whether users could recognize

⁴ Two of the types of dark patterns the researchers tested were 1) Hidden Information (smaller print in a less visually prominent location) and 2) Obstruction (making users jump through unnecessary hoops to reject a service). Prime uses both Hidden Information and Obstruction. *See, e.g.,* Chetty Report ¶¶ 155, 193.

manipulative designs on interfaces (Di Geronimo et al., 2020). The authors never claim to ascertain the effects of dark patterns on users.

25. The HCI research community has developed the very framework that Dr. Hoffman claims is lacking: the Gray Ontology that provides a standardized set of definitions by which dark patterns can be measured and tested, as I explained in my report. Chetty Report § IV(e). Thus, Dr. Hoffman's arguments about the lack of scientific frameworks and scholarly consensus are unfounded and untrue. Similarly, Dr. Rosenberg cites Mathur et al (Mathur et al., 2021) which reviewed earlier dark patterns literature prior to the development of the Gray Ontology. The Gray Ontology contains a more up to date literature review (Gray et al., 2024). It would be near impossible for an ontology, or a taxonomy, to be so comprehensive as to identify every single type of low-level dark pattern that may exist, but that is not the purpose of an ontology or a taxonomy (Gray et al., 2024). Taxonomies (and ontologies) are used as a starting point, especially given that dark patterns are so context specific. Additionally, the effect of dark patterns, which often appears as potential harm to the consumer including a financial loss or a loss of privacy, is also an indicator of a dark pattern (Mathur et al., 2021). For instance, a user visiting a government website that asks them to provide feedback would not incur negative consequences regardless of their decision to provide feedback. On the other hand, the effect of dark patterns in the Prime checkout flow can result in consumers unintentionally enrolling in Prime and incurring financial loss.

IV. Dr. Hoffman's Analysis of the Prime Detours in Amazon's Online Checkout and the Iliad Cancellation Process Is Unreliable.

a. Dr. Hoffman does not present a methodology for her analysis of either the Prime detours in online checkout or the Iliad cancellation process

26. Dr. Hoffman does not use, refer to, or articulate any standardized methodology or principles in conducting her analysis of the Prime detours in Amazon's online checkout process or the Iliad cancellation process. *See* Hoffman Report §§ VIII(B)-(C).
27. Additionally, Dr. Hoffman's entire analysis focuses on whether the checkout flow and cancellation screen captures contain "legitimate marketing practices" from a marketing perspective, which is not the appropriate analysis to conduct in order to determine how *consumers* interact with Prime interfaces (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Norman, 2013; Sharp et al., 2023; Shneiderman et al., 2016). *See, e.g.,* Chetty Report at § V.

b. Dr. Hoffman's analysis of Prime enrollment detours in online checkout is wrong

28. Given that Dr. Hoffman does not have a background in HCI and does not apply a principled methodology, the conclusions she drew with respect to her analysis of Prime detours within online checkout are inherently flawed.
29. For instance, Dr. Hoffman correctly asserts that using “consistent color and visual design schemes on a website creates an online experience consistent with consumers’ prior knowledge and prior experience on the website.” Hoffman Report ¶ 28(a). But she inaccurately applies this principle when describing the Prime enrollment detours. According to Dr. Hoffman, “[t]he use of color on the UPDP page is generally consistent with Amazon’s use of these elements on the rest of its website” as “[m]any consumers who shop on Amazon are likely to be familiar with UI design elements that are commonly shown on the website, including the use of orange and yellow buttons to indicate actions related to the purchase of products.” Hoffman Report ¶ 104. Hoffman specifically refers to the product page containing a yellow “Add to Cart” button (Hoffman Exhibit 8), an orange “Buy Now” button (Hoffman Exhibit 8), and an a yellow “Buy it again” button (Hoffman Exhibit 9). However, as I explain in my opening report, cite, it is precisely *because* of the consistent use of color on the calls to action that likely confuses consumers—especially those operating under System 1 thinking—into selecting an “enroll” call to action on the UPDP. Consumers using Amazon likely know that yellow and orange buttons are calls to action that allow them to advance from one page to the next in the checkout process. *See, e.g.*, Chetty Report ¶ 125. A user operating under System 1 thinking while interacting with the checkout interfaces or who is not paying careful attention to each screen may inadvertently click through the checkout calls to action and enroll in Prime since the button to enroll is also the same color as the button to advance to the next screen. This is a good example showing that dark patterns do not operate in a silo but rather depend on context. Here, consumers’ past experiences shopping on Amazon and Amazon’s consistent coloring scheme for its calls to action may be the source of consumers’ confusion.
30. In another instance, Hoffman’s assertions that the UPDP sufficiently discloses the materials terms of Prime (such as the cost of the subscription and the auto-renewal terms) are not accurate (*see* Hoffman Report ¶ 101-02), as Amazon discloses that information in the terms and conditions section at the bottom of the page, which consumers easily miss. Chetty Report ¶ 119-20. As noted in my report, the scientific literature demonstrates most users fail to read terms and conditions (Kitkowska et al., 2022; Obar & Oeldorf-Hirsch, 2020; Robinson & Zhu, 2020; Steinfeld, 2016). Therefore, if the information is only displayed in this smallest font on the page in terms and conditions, consumers are likely to miss it.

31. Dr. Hoffman labels the UPDP as a “cross-sell,” instead of an upsell. See Hoffman Report ¶ 93. Regardless of how it is labelled, the UPDP does not sufficiently disclose the material terms of an Amazon Prime subscription and makes it harder to decline the Prime offer than to accept using interface design techniques, such as making the call to action button enrolling in Prime the same color as the call to action buttons advancing consumers in the checkout process. Therefore, it is a manipulative design.
32. Another instance of Dr. Hoffman misapplying theory to facts is her comparison of the UPDP page to the feedback popup on the FTC’s website. Specifically, Dr. Hoffman suggests that the FTC also uses a dark pattern by using a navy blue button for the call-to-action to provide feedback versus a link to decline providing feedback. Again, Dr. Hoffman’s comparison highlights the importance of context when it comes to evaluating manipulative designs. The context of Amazon’s online checkout and the FTC’s website play a large part in determining how manipulative the calls-to-action are. Additionally, a consumer can exit the FTC’s feedback pop-up by clicking on the “X” at the top right of the pop-up—an option that Amazon fails to provide on its UPDP. Dr. Hoffman’s *ad hoc* comparison of unlike websites conducted without following any standardized procedure is contrary to the methods of experts in the field of HCI and renders her analysis flawed (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Norman, 2013; Sharp et al., 2023; Shneiderman et al., 2016).

c. Dr. Hoffman’s Analysis of Iliad is wrong

33. Similar to her analysis of the Prime detours in the checkout flow, Dr. Hoffman’s analysis of the Iliad cancellation process and the conclusions she drew from it are inherently flawed as she does not apply a principled methodology as an expert in the field of HCI would.
34. For instance, Dr. Hoffman correctly states that a consumer who enters the cancellation process may not be completely set on cancelling or may change their minds when represented with relevant information. However, since her analysis is not a systematic analysis of user interface design from a consumer perspective, she misses the fact that the Iliad cancellation process makes it easier for a consumer to stay enrolled *and not cancel* rather than successfully cancel, regardless of whether a user changes their mind. As noted in my opening report, the interface in cancellation makes it much easier to stay enrolled in Amazon Prime and exit the cancellation flow than to actually complete the cancellation process, making it more likely consumers will have to exert more effort to complete the cancellation flow. Chetty Report ¶ 254. The user study I conducted confirmed this, as participants had difficulty finding and completing Iliad. Chetty Report ¶¶ 350, 355(ii)-(iii). Participants also needed assistance to complete the process and at

least two participants stopped the cancellation process too soon, thinking they had completed it. These results suggest the cancellation process makes it harder to cancel than to stay enrolled in Prime.

35. The cancellation process may follow a practice that is called progressive disclosure (Hoffman Report ¶ 212 n.344); however, Dr. Hoffman misrepresents this concept, then misapplies it in her report. Progressive disclosure “defers advanced or rarely used features to a secondary screen, making applications easier to learn and less error-prone.” (Nielsen Norman Group, n.d.-a). It involves initially showing users “only a few of the most important options” and offering “a larger set of specialized options upon request.” Amazon does not follow progressive disclosure in Iliad, as the most important piece of information—the final cancellation call to action buttons—are placed on the very last page of the Iliad. Consumers are presented with the same information throughout Iliad regardless if they request any of the information. In fact, as noted in my report, the information presented in Iliad adds additional cognitive load⁵ on the user and the interface designs present too many options to the user that require the user to expend more mental effort to process and determine how to complete the cancellation process. See Chetty Report ¶¶ 250, 265, 282. Participants in the user study I conducted mentioned that it required more effort to find the continue to cancel button in the middle of the button choices in Iliad’s Marketing and Offers pages. See Chetty Report ¶ 356. Dr. Hoffman’s misapplication of progressive disclosure to Iliad is another example of why her analysis is not sound.

36. Similarly, Dr. Hoffman’s conclusion that users can easily recover from exiting the cancellation flow or opt for an option that does not complete the cancellation process if that is their intention is incorrect. According to her, “Amazon’s data show that between 2018 and Q1 2021, approximately 75% of Prime members who initiated the online cancellation process completed their cancellation.” Hoffman Report ¶ 197. First, “completing cancellation” here is not defined, so it is unclear what this means. For instance, does selecting the pause option mean that a consumer has completed cancellation? Second, this data also suggests 25% of Prime members who initiated the cancellation process did *not* complete cancellation, which is a significant portion of consumers entering Iliad.

37. As noted in my expert report, the simple fact that consumers can cancel their Prime subscription alone does not mean that the process was simple for them. In my user study,

⁵ Dr. Hoffman recognizes that “cognitive load can be defined as the amount of mental resources required by a user to navigate a website.” Hoffman Report ¶ 47. However, she fails to identify this phenomenon in both the Prime detours in the checkout process and the Iliad cancellation process.

where participants were incentivized to cancel, many participants needed help navigating to find the cancellation flow and several stopped the cancellation process too early. *See* Chetty Report ¶¶ 350, 355-56. Several participants found the process to be onerous and akin to jumping through hoops. *See* Chetty Report ¶ 356. Confirming whether a user wants to cancel to prevent errors could be implemented in a simpler fashion than Amazon does.

d. Dr. Hoffman's Assumptions of Mobile Flows are wrong.

38. As noted in my report, users are not as likely to pay attention to information below the fold or outside of the viewable area of a mobile device (Nielsen Norman Group, n.d.-b, n.d.-d). A smaller font size is also harder to read on a mobile device. Dr. Hoffman does not consider any of these studies in her report. Additionally, contextualizing the small font, vertical layout, and not having key information be above the fold is essential to my conclusion that the Prime detours in checkout on a mobile device are even more confusing to consumers than on a desktop device. Exhibit 49 of Dr. Hoffman's Report shows that most of the information above the fold is not related to the material terms of Prime. Rather, it's related to the "[p]erks of Prime." Additionally, Dr. Hoffman does not address the other design issues that exist on the mobile capture in Exhibit 49, such as the wording and display of the call to action buttons. *See, e.g.,* Chetty Report at ¶¶ 121-22.
39. Both enrollment and cancellation are likely to be harder on a mobile device as noted in my report. *See, e.g.,* Chetty Report at ¶¶ 48, 128, 129, 156, 194 215, 222, 229, 253, 284, 286.

V. Dr. Hoffman's Comparison of Prime to Other "Popular Paid Digital Membership/Subscription Programs" is Flawed.

a. Dr. Hoffman does not apply a principled methodology in comparing Prime enrollment and cancellation processes to other online subscription programs.

40. Though Dr. Hoffman included a methodology section in her comparison of Prime enrollment and cancellation processes with other popular digital subscription programs, the methodology is unprincipled, lacks any scientific foundation, and is devoid of an explanation as to the reason for the steps taken within the study. The lack of methodology undermines any findings Dr. Hoffman draws from this study.
41. Dr. Hoffman does not explain the methodology for her selection of the "48 popular paid digital programs" based on "a survey of 1,005 American consumers commissioned by Forbes Advisor and conducted by market research company Prolific." Hoffman Report ¶ 271; Exhibit D. For instance, nowhere does Dr. Hoffman properly explain why she relied

on Forbes Advisor’s survey, or why comparing digital programs spanning such vastly different categories of subscriptions, such as streaming, delivery, music, cloud storage, gaming, food delivery, live TV, home security, news, and cybersecurity, is methodologically sound.

42. Dr. Hoffman purports to identify 9 “UI design elements (or those similar to them)” in Amazon’s enrollment process and 7 “UI design elements within Amazon’s cancellation flow.” Hoffman Report ¶¶ 272-273. However, Dr. Hoffman does not define any of these design elements, nor does she provide any references explaining what the “UI design elements” she lists are.⁶ For instance, how and where could someone identify the first UI design element she lists—“[t]he company offers a free trial that automatically renews and charges payment method if not cancelled before the end of the free trial period”—on a page? *See* Hoffman Report ¶ 272. Similarly, how does “[t]he cancellation flow involves navigating multiple webpages” appear as a UI design element on a page? Hoffman Report ¶ 273. Hoffman also does not explain how or why she selected the specific UI design elements she uses in her analysis. Defining variables in a study and explaining the reasoning behind the selection of variables is essential to the soundness of a study’s methodology is important (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Sharp et al., 2023) because how do we know that these design elements are the most relevant ones to analyze?
43. Another significant problem with Dr. Hoffman’s methodology is that she only examines each enrollment or cancellation process for the presence or absence of an element or information (which she labels a “UI design element”) without considering how and where each element fits into a consumer’s journey to enrolling or cancelling a subscription on each website. *See* Hoffman Exhibits 54 and 55 (enrollment) and 74 (cancellation) (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Lazar et al., 2017; Norman, 2013; Sharp et al., 2023). Instead of looking at enrollment and cancellation processes holistically, Dr. Hoffman analyzes design elements that are isolated from their context without taking the latter into account. This type of comparison highlights Dr. Hoffman’s misunderstanding of how manipulative design elements impact a consumer’s choice architecture. *See, e.g.*, Chetty Report § IV(d).
44. As I have emphasized in my own report, factors unique to each process—including where the design element appears within the process and on an interface, the emphasis it is given, and how the design element interactions with other design elements in the interface impacts a user’s choice architecture—need to be considered when analyzing the

⁶ Appendix D.1 to the Hoffman Report provides coding instructions, but it is not clear that those researchers were told what design elements to look for on webpages, as some of the “UI design elements” Dr. Hoffman lists are information, not design elements.

design of an interface. *See, e.g.*, Chetty Report ¶¶ 58, 125, 196. In other words, analyzing design elements in isolation will not provide much, if any, understanding as to the impact of that design element on a consumer because a design element in one enrollment or cancellation process might have an entirely different impact when it is included in another context (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Norman, 2013; Sharp et al., 2023). Therefore, the presence (or absence) alone of certain user interface elements in other services sheds little light on how users interact with those design elements and whether or not their processes are confusing or misleading. A cognitive walkthrough analysis by an HCI expert or a user study is necessary to consider each site's unique attributes and the consumer's goals for that particular site and tasks for which the interfaces were designed. *See* Chetty Report ¶¶ 63-68.

45. Most importantly, Dr. Hoffman does not explain how the presence, or absence, of design elements “at issue” in Prime as compared to 48 other “popular paid digital membership/subscription programs” sheds any light on how consumers interact with the Prime subscription detours in the online checkout and the Iliad cancellation process. Hoffman Report ¶ 270. While a consumer's interactions on a specific interface may be informed by their past experiences with similar interfaces, those interactions do not determine a consumer's outcomes on another interface or how likely they are to recognize, understand, and navigate a particular design element (Norman, 2013; Sharp et al., 2023). As a result, it is not a fair comparison to say that the analysis of any other website (including the sites Dr. Hoffman includes in her analysis) has any bearing on how a consumer will interact with Amazon's screens.
46. As part of her methodology, Dr. Hoffman organizes the 48 subscription programs (other than Prime) into three categories based on the types of products or services they offer:
 - a. Category 1 is companies “that also sell products or services other than the paid digital membership/subscription programs (e.g., Walmart, Best Buy)”;
 - b. Category 2 is companies “that use a freemium pricing model (i.e., companies that offer a free version of their product or service alongside paid digital membership/subscription programs for premium content and services (e.g., YouTube Music, Wall Street Journal)”;
 - c. Category 3 is companies “that only offer paid digital membership/subscription programs for streaming content or the services they offer (e.g., Netflix, Xfinity).”

Hoffman Report Exhibits 54 and 55 n.2, Exhibit 74 n.1. Dr. Hoffman does not explain why this type of categorization is relevant to her analysis or provide any sources showing that this categorization is typically conducted for this kind of study or any explanation as to how she landed on these three categories. Furthermore, each category groups subscription programs that offer very different products and services. These subscription

programs also have different enrollment and cancellation processes that cannot be compared to each other so superficially. For instance, both Walmart+ and Nintendo Switch Online are classified as “category 1” companies. But how can the experience of a consumer who encounters an upsell for a Walmart+ subscription while placing an order on Walmart.com for other products be compared to a consumer buying a Nintendo Switch Online subscription for games, which is itself the service being sold? Dr. Hoffman does not offer any basis for making such a comparison.

47. Moreover, Dr. Hoffman does not explain how Categories 2 or 3 illuminate a consumer’s experience with subscribing to Prime through online checkout and cancelling Prime. Some Prime detours in the checkout flow do not only follow a “freemium pricing model.” Prime enrollment through hard offers, instead of free trials, immediately charge consumers without a free trial period. *See* Chetty Report at ¶ 127. Additionally, Prime is clearly not a Category 3 subscription, as it does not only offer a subscription for streaming content.
48. Moreover, many subscription programs Dr. Hoffman included in her analysis do not have an equivalent screen to the UPDP page which interrupts the user’s purchasing experience their checkout flow. *See* Chetty Report ¶ 116. Most of the sites Dr. Hoffman includes also do not do multiple offers during a checkout flow if a user does not accept the first offer (e.g. DoorDash, UberOne, Instacart, MyBestBuyPlus). Many of the sites use words like “Subscribe” or “Add membership” and add the annual cost of membership to the consumer’s online shopping cart, which Amazon does not. Most also offer two options at cancellation and often use Interface Interference to highlight the cancel option rather than the decline option, (e.g. Target360), unlike Prime’s Iliad flow, which deemphasizes the cancel option and highlights the decline option.
49. Similarly, in her analysis of the cancellation flows on the 48 sites, Dr. Hoffman again follows no principled analysis for what a user is trying to do on each site and merely comments on elements in isolation. *See supra* ¶ 44. Some subscriptions have very difficult cancellation options such as Costco (which does not have an online cancellation process) or SimpliSafe (which only shows a message board offering advice on how to cancel.) Others make the option to cancel more visually prominent by default, unlike Amazon’s Iliad (e.g. Kroger and TargetCircle360). Other programs make the option to keep a subscription by default more prominent (such as DoorDash). These examples illustrate how making comparisons amongst these sites is not methodologically sound, as each cancellation processes on each site needs an in depth analysis of its own and, more importantly, has no bearing on how users will navigate Iliad.

50. Dr. Hoffman also offers no explanation of the limitations of her analysis, which is required in any study of this nature (Goodman & Kuniavsky, 2012; Lazar et al., 2017; Sharp et al., 2023).

51. Dr. Hoffman’s whole analysis is lacking in rigor and makes arbitrary comparisons, ignores what a user on each site is trying to do (Dix & Finlay, 2004; Norman, 2013; Sharp et al., 2023) and the experience of navigating a flow on each site, rather than examining interface elements in isolation. Hoffman also does not note dark patterns in the 48 sites she reviewed and ignores the cumulative effects manipulative elements can have across a user’s interaction for a particular task such as buying a product on Amazon Prime (Luguri & Strahilevitz, 2021; Zac et al., 2025). For this reason, the conclusions she draws are flawed and again have no bearing on the findings in my report about the Amazon Prime flows.

b. Dr. Hoffman’s Skewed Study of Prime and Other “Popular Paid Digital Membership/Subscriptions Programs” Still Shows that the Design of the Prime Detours in Checkout and the Prime Cancellation Processes Are Problematic.

52. Even Dr. Hoffman’s flawed analysis shows that Prime performs poorly when compared to other Category 1 websites—which seem to be the category Prime is most likely to fall under out of the three.⁷ With respect to design elements in the enrollment process, only Walmart+, Kroger Boost, and DoorDash DoorPass display all 9 at-issue UI design elements that Dr. Hoffman analyzes in the Prime enrollment flows. Hoffman Report Exhibits 54 and 55. However, each of those three subscription programs present elements that Dr. Hoffman does not take into account that make the choice architecture clearer to consumers. As an example, while Walmart+ has a similar pop-up to Prime’s UPDP, Walmart+’s pop-up presents three choices: “Join Walmart+ today” (accept enrollment), “No thanks” (decline enrollment), and selecting the “x” on the top right-hand of the pop-up (decline enrollment). See Hoffman Report Exhibit 71.⁸ This design is better for consumers than Prime’s UPDP, which only presents two options: one to accept enrollment and one to decline. See Chetty Report ¶ 112. Similarly, DoorDash DashPass also presents an “x” for a consumer to exit the subscription enrollment pop-up. Hoffman Report Exhibit 64. Kroger Boost’s enrollment process is also better than Prime

⁷ Category 1 companies in Hoffman’s Exhibit 54, 55, and 74 include: Walmart+, Target Circle 360, My Best Buy Plus, Costco, Kroger Boost, PlayStation Plus, Nintendo Switch Online, Xbox Game Pass, EA Play, DoorDash DashPass, Uber One (for Uber Eats), Instacart+, 7-Eleven GoldPass, Nest Aware (for Google Nest), Wyze, and SempliceSafe.

⁸ Hoffman uses Exhibit 71 (Walmart+ Pop-Up) to compare the font size and color of benefits to Prime’s UPDP (Exhibit 69) and SPC (Exhibit 70) pages. However, this example shows why looking at isolated design elements does not yield a proper evaluation of a consumer’s experience navigating the flow.

in some ways, as there are fewer pathways in the purchasing flow that allow a user to mistakenly enroll in this program. Indeed, Kroger does not seem to include an enrollment opportunity for its subscription Kroger Boost on the “complete order” page if a user does not accept the first offer. (Hoffman Report Appendix E, Kroger Boost, Decline Offers.) Also, on the first offer, there is a “Back” button for a user to return to their product checkout flow, which Amazon’s checkout does not have, which provides the consumer with more control on the Kroger checkout than in the Amazon checkout process.

53. Similarly, with respect to design elements in the cancellation process, only the cancellation process for Uber One (for Uber Eats) contains the 7 at-issue UI design elements as Prime presents. Dr. Hoffman Report Exhibit 74.⁹ However, Dr. Hoffman does not include any comparison between the Prime cancellation process and the Uber One cancellation process, even though it hits on all 7 at-issue design elements in her study. The Uber One cancellation process has some better design elements than Iliad. For instance, Uber One only has two calls-to-action, instead of three in Iliad, creating less cognitive overload for consumers. See Hoffman Report App. E, Uber One, Cancellation, Cancel Membership (06-08).

VI. Dr. Hoffman’s Comparison of Prime to Government Websites Is Flawed.

54. Dr. Hoffman dedicates a portion of her report to locating “at-issue UI design elements” that are present in Prime within the top 30 U.S. government websites. See Hoffman Report § VIII(D).
55. This comparison is pointless. First, government user interface websites have no bearing on the fact that the Amazon Prime enrollment and cancellation flows are misleading and not simple. Second, Dr. Hoffman fails to take into account the goals for which users access government websites versus retail websites, such as Amazon. She compares completely different tasks such as providing feedback to government agencies with enrolling in a subscription. See Hoffman Report Exhibits 89-92. The goals are completely different for a user on the FTC website as compared to a consumer buying a product or cancelling a subscription on Amazon (Dix & Finlay, 2004; Goodman & Kuniavsky, 2012; Norman, 2013; Sharp et al., 2023). The outcomes of not providing feedback on the FTC website are not the same as incurring financial loss.
56. Dr. Hoffman’s comparison is not useful. The analysis is lacking an in depth of enrollment and cancellation on each site from a user-interface standpoint and does not consider a

⁹ Some companies do not have an online cancellation process.

user's goals and motivations on each site. The analysis also does not consider the difference in potential consumer harm. Even if a user encountered a design, or designs, that fit the definition of a dark pattern on a government website, that user is unlikely to suffer any harm, such as financial loss or privacy loss (Mathur et al., 2021). Moreover, each site is designed differently so to assess an interface and how a user reacts to it, one cannot presume a user will interact the same on website a as website b given different tasks, goals, and designs (Norman, 2013; Sharp et al., 2023).

VII. Dr. Wilcox's Cancellation Survey to "Assess the Extent to which Prime Members Can Locate and Complete the Desktop Version of the Cancellation Flow on Amazon.com" is Flawed.

a. The Setup and Implementation of the Cancellation Stimulus Skewed its Results

57. In his report, Dr. Wilcox explains designing and conducting a survey (the "Cancellation Survey"), which "presented respondents with a simulated portion of the Amazon.com website, which Dr. Wilcox refers to as the "Cancellation Stimulus." Wilcox Report ¶¶ 19, 23. The Cancellation Stimulus was essentially what Wilcox refers to as a "four-page cancellation process" including "the Prime Central page and the three pages of the Cancellation Flow." Wilcox Report ¶ 26. Respondents to the survey started the Cancellation Stimulus on the Prime Central page. Wilcox Report ¶ 28.
58. Dr. Wilcox states he "tracked three outcomes" with respect to locating the online cancellation process: (1) "whether respondents located the Cancellation Flow" starting on the Prime Central page, (2) "how long it took respondents to locate the Cancellation Flow" starting on the Prime Central page, and (3) "how many times respondents were given Additional Instructions while searching for the Cancellation Flow" starting on the Prime Central page. Wilcox Report ¶ 33. He claims he tracked similar outcomes as to the respondents' ability to complete cancellation: (1) "whether respondents clicked on the 'End Now,' 'End on [Date],' or 'Pause on Date' buttons on the last page" of Iliad, (2) "the time it took respondents to click on the 'End Now,' 'End on [Date],' or 'Pause on Date' buttons since entering the first page" of Iliad, and (3) whether respondents were given Additional Instructions" while completing the stimulus. Wilcox Report ¶ 39.
59. In my opinion based on my experience in the field and the relevant scientific literature, neither set of outcomes described in the Wilcox Report is indicative of whether the cancellation process is simple for consumers to find.
60. **First**, having respondents start on the Prime Central page significantly skews the Cancellation Survey results, as it places respondents further along in the cancellation process than real-life consumers. To the contrary, a consumer seeking to cancel Prime does not begin the cancellation process on the Prime Central page. *See, e.g., Chetty*

Report §§ VII(a)(i) (Finding Iliad). Rather, real-life consumers need to *locate* the ingress to the cancellation process on the Amazon website to begin their attempt to cancel Prime. Prime Central is itself an ingress to the cancellation process. Chetty Report ¶¶ 202-03, 208. By starting on the Prime Central page, Dr. Wilcox’s analysis fails to consider complications consumers face in locating the ingress. The complications are detailed in Paragraphs 210-215 of my initial report.

61. While Dr. Wilcox created an Amazon landing page, a “Your Account” page, and a “Your Memberships and Subscription” page that respondents could access in their search for an ingress to Iliad (Wilcox ¶ 30), respondents did not start from any of those locations. Placing respondents on the Prime Central page as a starting point to the cancellation process—as opposed to the Amazon landing page, where most consumers are likely to begin their cancellation process—therefore means that those respondents had a head start on the cancellation process as compared to consumers seeking to cancel Prime in real life.
62. Additionally, Dr. Wilcox does provide any explanation for why the simulation begins on the Prime Central page, other than stating that Prime Central is “the first page of the four-page desktop cancellation process described in the Amended Complaint.” Wilcox Report ¶ 28. This explanation is not supported by standard HCI study principles where studies should mimic the users’ experience as closely as possible. Sharp et al., 2023.
63. **Second**, Dr. Wilcox does not explain the reason for which he selected the two other metrics he tracked: time and number of times Additional Instructions were provided to respondents. Wilcox Report ¶ 33. Specifically, he does not explain how tracking the time it took respondents to locate or complete Iliad informs us as to whether locating Iliad is simple. Given that the survey is a quantitative study, he does not provide any context as to how he analyzed the “time” metric. Without such context, user experience experts would not use such data to draw reliable conclusions about consumers’ experience. (Nielsen Norman Group, n.d.-e). Similarly, Dr. Wilcox does not explain how tracking the number of times Additional Instructions were provided to respondents informs us as to whether locating or completing Iliad is simple. Dr. Wilcox does not cite to any methodology that supports relying on these metrics, nor is there support for such metrics in the scientific literature (Goodman & Kuniavsky, 2012; Nielsen Norman Group, n.d.-e; Sharp et al., 2023).
64. Additionally, there are serious limitations to only tracking time and number of times Additional Instructions were provided to respondents. Other important inputs were not taken into account, such as the user’s state of mind (Nielsen Norman Group, n.d.-e; Norman, 2013). For instance, an older adult may take a longer time to navigate a set of

screens if they are unfamiliar with digital interfaces and may have no trouble spending a long time trying to locate a cancellation option for a subscription whereas an adult multi-tasking and trying to speed through cancellation on a mobile device on the go may find that even spending a minute on cancelling is too long and abandon their task. In my user study, we did not just measure time to complete cancellation and instead employed a think aloud to ensure we could better understand what users were thinking as they navigated the cancellation flow. A think aloud helps us understand whether users found a task confusing, simple, or easy and also more about why users fail certain tasks and how well they perform tasks they did complete (Lewis, 1982; Nielsen Norman Group, n.d.-c, n.d.-e; Sharp et al., 2023). If Wilcox took a user's state and goals into account, he would know that in some instances time to locate may not be the only metric to track as a measure of cancellation success (Nielsen Norman Group, n.d.-c, n.d.-e).

65. **Third**, the manner in which Dr. Wilcox structured the “Additional Instructions” also skewed the simulation results. “[R]espondents who clicked on an active link or button that did not direct them to [Iliad], the Prime Central page, the Amazon Landing page, the Your Account page, or the Your Membership & Subscriptions page were given additional instructions” that “informed respondents that they have made a selection that ended the simulation without canceling their Amazon Prime membership and that they would re-enter the simulation of the Amazon website starting on the last page they visited.” Wilcox Report ¶ 31. The Cancellation Stimulus “allowed respondents to re-enter the stimulus an unlimited number of times . . .” Wilcox Report ¶ 32. In my opinion, these Additional Instructions are problematic and skew the results of the Cancellation Stimulus because they re-directed respondents back to the cancellation process. Real-life consumers are not similarly redirected to the cancellation flow. In fact, each click that generated an Additional Instruction in the Cancellation Stimulus would have *removed* a real-life consumer from the cancellation process. Consumers in real life would not be redirected towards the cancellation flow if they clicked on any of those links. HCI studies should be designed to mimic the user's experience as closely as possible (Sharp et al., 2023). Dr. Wilcox states that real-life consumers could “return to [the Iliad] by clicking on their browser's back button” (Wilcox Report ¶ 39) but does not provide any explanation of how providing Additional Instructions mimics exiting Iliad.

66. **Fourth**, Dr. Wilcox's screening questions also skewed the Cancellation Stimulus' results because he limited respondents to those who “[o]wned a Prime membership or shared a Prime membership with a household member.” Wilcox Report ¶¶ 21(f), 22(f). Practically speaking, this means that the respondents were more likely to be familiar with Amazon Prime's interface. This screening question is problematic for a couple main reasons. First, this screening question fails to take into account those consumers who accidentally subscribed to Prime within the checkout process, for instance. Those

consumers may or may not be familiar with Amazon Prime's interface. Second, this screening question no doubt encompasses those consumers who have already cancelled their Prime membership at some point in the past and then resubscribed to Prime prior to participating in the Cancellation Stimulus. Those respondents would have already successfully cancelled their Prime subscription (either through Iliad and or Iliad 2.0 which the FTC informed me was launched on www.Amazon.com in or around April 2023) and therefore would have already been familiar with Iliad. Dr. Wilcox did not screen for respondents who have already cancelled a Prime subscription. Wilcox Report ¶¶ 21-22. These data biases therefore were not reported and experts in the field cannot draw conclusions concerning the reliability of the Cancellation Stimulus as a result (Goodman & Kuniavsky, 2012; Lazar et al., 2017; Sharp et al., 2023).

67. **Fifth**, Dr. Wilcox set a 10-minute time limit where respondents who did not locate Iliad within 10 minutes and cancel their subscription within 10 minutes were not taken into account. Wilcox Report ¶¶ 42-43. This limitation is very problematic. First, the 10-minute time limitation automatically weeds out respondents who think that they have successfully completed the cancellation process by selecting the "End Membership" option on Prime Central (Wilcox Report Exhibit 1) or a button on the First Page (Wilcox Report Exhibit 5) or the Second Page (Wilcox Report Exhibit 6) from the results of the Cancellation Stimulus. Second, the only basis he provides for selecting 10 minutes as a threshold was his "pilot study with 51 respondents to confirm that both 10-minute time limits allowed respondents to locate and complete [Iliad] without artificially limiting respondents' exploratory behavior in the stimulus, and accommodated respondents with different levels of comfort and ability to navigate the Cancellation Stimulus (e.g., varying speed levels)." Wilcox Report ¶ 43. That alone does not constitute a reliable basis explanation as to why a 10-minute limit was set (Goodman & Kuniavsky, 2012; Lazar et al., 2017; Sharp et al., 2023).
68. **Sixth**, while online surveys using panels for participants are often used in studies, they present limitations and can impact study results. I myself have used panels in experiments I have conducted and have found first-hand that the data in panels can be problematic, even when using attention check questions, as Dr. Wilcox did. Wilcox Report ¶ 20. Participants in survey panels can at times straight-line or choose options at random to get the incentive for participation and may not be paying close attention to the task at hand. Wilcox should address this limitation of his study, but does not (Goodman & Kuniavsky, 2012; Sharp et al., 2023). Additionally, cancellation survey respondents were motivated to cancel the subscription since they were instructed to do so, so their experience is not the same as a real-life consumer trying to cancel a subscription in the wild. Wilcox does not address the limitations of his study, nor does he attempt to mitigate

it during the course of the study.

69. **Seventh**, Dr. Wilcox amalgamates respondents who selected the “End Now,” “End on [Date],” and “Pause on [Date]” buttons on the last page of Iliad. Wilcox Report ¶ 39. This interpretation skews the results of the Cancellation Stimulus. Selecting “Pause” is not the same as cancelling Prime, and cancelling Prime at the end of the subscription period is not the same as cancelling Prime immediately. Aggregating the data in this way makes it harder to draw meaningful conclusions about ease of cancellation versus the other options.

b. The Cancellation Survey’s Skewed Results Still Shows that It Is Not Simple Consumers to Complete the Cancellation Process on Iliad

70. Though the results of the Cancellation Survey are skewed, even Dr. Wilcox’s flawed testing shows that some respondents likely struggled to cancel their Prime subscription.
71. First, 35% of respondents who located Iliad clicked on a link or a button that provided them with Additional Instructions at least once which, in real life, would have entirely removed those respondents from the cancellation process without successfully cancelling. Wilcox Report ¶ 47 n.96. Of that 35%, 10% received Additional Instructions twice and 7.6% received Additional Instructions three or more times. Furthermore, some respondents who located Iliad received Additional Instructions 14 times. *Id.*
72. Second, 11 people (2.1% of respondents) spent over 240 seconds (4 minutes) to locate Iliad despite the Additional Instructions bias and starting on the Prime Central page. (Exhibit 11).

VIII. Dr. Wilcox’s Free Trial Survey is Flawed

73. Dr. Wilcox also designed and conducted a survey “to assess the extent to which consumers have experience with free trials of memberships and subscriptions, particularly those that automatically turned into paid memberships or subscriptions unless cancelled.” Wilcox Report ¶ 51.
74. The free trial survey that Dr. Wilcox conducted has no bearing on what users do on the Amazon website, as each site and experience is different (*see supra* § III(b)) and a user’s interactions with an interface have to take into account their goals and experiences as they navigate the site in question (Norman, 2013). As a result, it is inappropriate to infer that these survey results have any bearing on what a user does on Amazon. Dr. Wilcox also does not explain why the free trials categories (e.g. gym, news, retail, etc.) were chosen or how these are considered comparable (Goodman & Kuniavsky, 2012; Lazar et

al., 2017; Sharp et al., 2023).

75. Moreover, Dr. Wilcox's results of the free trial survey are not analyzed in a rigorous manner. For instance, he says 85% "85.0% of the respondents who had signed up for one or more free trials in the past 12 months indicated that the free trial they had most recently signed up for either automatically turned into a paid membership or subscription at the end of the trial period, or would have automatically turned into a paid membership or subscription at the end of the trial period, but they cancelled it first" – why are all these vastly different results lumped together? Also why are different sites being compared to retail?
76. Comparing respondents' experiences across vastly different sites again shows a lack of understanding of a user's goals and tasks on each site and how each site is offering different services. These results are not easily interpretable since retail is not broken out and even within retail it is unclear what respondents took this to mean.

IX. Consumers Who Successfully Cancel their Prime Membership on Iliad or Iliad 2.0 Have to Consciously Navigate Through a Significant Amount of Information to Get to the Cancellation Survey.

77. In his report, Dr. Kivetz assumes that people who cancel their Prime membership do not remember signing up for Prime and that the consumers who participate in a cancellation survey that appears immediately after those consumers cancelled their Prime membership randomly responded to the cancellation survey. Kivetz Report ¶¶ 56-66, 343-353.
78. The FTC asked me to assume that consumers only see a cancellation survey once they successfully cancel their Prime subscription on Iliad and Iliad 2.0. The FTC also asked me to assume that "I did not intend to sign up for Prime" was an option presented to consumers in the cancellation survey among others.
79. The FTC also provided me with the following word and image counts for the following enumerated pages on the Amazon website as of March 26, 2025:
 - a. Amazon homepage
 - i. 211 images (Att. A)
 - ii. 1,405 words (Att. F)
 - b. Your Account
 - i. 16 images (Att. B)
 - ii. 1,048 words (Att. G)
 - c. Prime Central
 - i. 50 images (Att. C)
 - ii. 1,023 words (Att. H)

- d. Iliad 2.0 Marketing Page
 - i. 9 images (Att. D)
 - ii. 760 words (Att. I)
- e. Iliad 2.0 Cancellation Page
 - i. 6 images (Att. E)
 - ii. 748 words (Att. J)

80. The FTC asked me to assume that, to successfully cancel their Prime membership on Iliad 2.0, a consumer needs to take the following steps:

1. Turn on a device, such as a laptop, a smartphone, or a tablet;
2. Open a browser;
3. Type www.Amazon.com in the address bar to access the Amazon website;
4. Navigate the Amazon homepage, which contains 1,405 words and 211 images;
5. Locate an ingress to Iliad 2.0 by, for example, selecting the “Accounts & Lists” dropdown menu at the top right hand of the page, navigating through 25 options presented, and selecting “Accounts & Lists”
6. Select “Account” to get to the Prime Central page (or, alternatively, access Prime Central through the “Your Accounts” page)
7. Navigate the Prime Central page, which contains 1,023 words and 50 images to find and select the “update, cancel and more” link in small font underneath “Manage membership” to generate a dropdown menu
8. Select “End membership” from the dropdown menu with four options
9. Look through the three options on the Marketing Page and select “Continue to Cancel” on the Marketing Page
10. Look through the three options on the Cancellation Page and select “End Membership Now” on the Cancellation Page
11. Take the cancellation survey.

81. The FTC asked me to assume that, to successfully cancel their Prime membership on Iliad, a consumer needed to take the following steps:

- a. Locate an ingress to Iliad 2 by, for example, selecting the “Accounts & Lists” dropdown menu at the top right hand of the page, navigating through all of the options presented (similar to the ones for Iliad 2.0), and selecting “Accounts & Lists”
- b. Select “Account” to get to the Prime Central page (or, alternatively, access Prime Central through the “Your Accounts” page)
- c. Navigate the Prime Central page
- d. Select “End membership” from the dropdown menu with four options

- e. Look through the three CTA options on the Marketing Page and select the middle button “Continue to Cancel” on the Marketing Page;
- f. Look through the three CTA options on the Marketing Page and select the middle button “Continue to Cancel” on the Offers Page;
- g. Look through the five CTA options on the Cancellation Page and select “End Membership Now” on the Cancellation Page.
- h. Take the cancellation survey.

82. Based on the information in the preceding paragraphs in Section IX, the screen captures of Iliad and Iliad 2.0 the FTC provided me, and my cognitive walkthrough of Iliad and Iliad 2.0 (*see* Chetty Report § VII) and the user study I conducted (*see id.* § VIII), it is my opinion that both cancellation processes on Iliad and Iliad 2.0 require the consumer to wade through a large amount of information presented on each screen and to make specific selections on the screen to proceed through the cancellation process. It is very likely that consumers who responded to the cancellation survey after cancelling their Prime membership on Iliad or Iliad 2.0 could have only gotten to the survey by consciously deciding to take specific steps to get to the cancellation survey. This is because those consumers had to navigate through the cognitive burden created by the number of steps to successfully cancel their subscription and the amount of information presented on each screen as part of the process (*see supra* ¶¶ 79-81). The long process that was involved to take a Prime subscriber who mistakenly subscribed to Prime to the point of a cancellation survey would have required that consumer to take a number of cognitive steps that required System 2 thinking by the time they reached the cancellation survey. For instance, such a subscriber would have had to realize that they were subscribed to Prime and possibly think about why they subscribed to Prime, decide that they did not want to remain a Prime member, and then go through all of the steps to cancel online (Norman, 2013). *See, e.g.*, Chetty Report at § VII (describing the Iliad and Iliad 2.0 cancellation processes).

Dated: March 26, 2025



Marshini Chetty, Ph.D

Cited References

- Alberts, L., Lyngs, U., & Van Kleek, M. (2024). Computers as bad social actors: Dark patterns and anti-patterns in interfaces that act socially. *Proceedings of the ACM on Human-Computer Interaction*, 8(CSCW1), 1–25.
- Bielova, N., Litvine, L., Nguyen, A., Chammat, M., Toubiana, V., & Hary, E. (2024). The effect of design patterns on (present and future) cookie consent decisions. *33rd USENIX Security Symposium (USENIX Security 24)*, 2813–2830.
- Bongard-Blanchy, K., Rossi, A., Rivas, S., Doublet, S., Koenig, V., & Lenzini, G. (2021). I am Definitely Manipulated, Even When I am Aware of it. It s Ridiculous! —Dark Patterns from the End-User Perspective. *Designing Interactive Systems Conference 2021*, 763–776. <https://doi.org/10.1145/3461778.3462086>
- Brignull, H. (2023). Deceptive patterns: Exposing the tricks tech companies use to control you. *Testimonium Ltd.*
- Di Geronimo, L., Braz, L., Fregnan, E., Palomba, F., & Bacchelli, A. (2020). UI Dark Patterns and Where to Find Them: A Study on Mobile Applications and User Perception. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1–14. <https://doi.org/10.1145/3313831.3376600>
- Dix, A., & Finlay, J. (2004). Gregory d. Abowd, and Russell Beale. *Human-Computer Interaction 3ed, Pearson Prentice Hall.*
- Fagan, P. (2024). Clicks and tricks: The dark art of online persuasion. *Current Opinion in Psychology*, 58, 101844. <https://doi.org/10.1016/j.copsyc.2024.101844>
- Goodman, E., & Kuniavsky, M. (2012). *Observing the user experience: A practitioner's guide to user research.* Elsevier.

- Gray, C. M., Chen, J., Chivukula, S. S., & Qu, L. (2021). End User Accounts of Dark Patterns as Felt Manipulation. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW2), 372:1-372:25. <https://doi.org/10.1145/3479516>
- Gray, C. M., Kou, Y., Battles, B., Hoggatt, J., & Toombs, A. L. (2018). The Dark (Patterns) Side of UX Design. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 1–14. <https://doi.org/10.1145/3173574.3174108>
- Gray, C. M., Santos, C. T., Bielova, N., & Mildner, T. (2024). An Ontology of Dark Patterns Knowledge: Foundations, Definitions, and a Pathway for Shared Knowledge-Building. *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*, 1–22. <https://doi.org/10.1145/3613904.3642436>
- Kitkowska, A., Högberg, J., & Wästlund, E. (2022). Online Terms and Conditions: Improving User Engagement, Awareness, and Satisfaction through UI Design. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. <https://doi.org/10.1145/3491102.3517720>
- Kugler, M. B., Strahilevitz, L., Chetty, M., & Mahapatra, C. (2025). Can Consumers Protect Themselves Against Privacy Dark Patterns? *University of Chicago Coase-Sandor Institute for Law & Economics Research Paper*, 25–01.
- Lazar, J., Feng, J. H., & Hochheiser, H. (2017). *Research methods in human-computer interaction*. Morgan Kaufmann.
- Lewis, C. (1982). *Using the "thinking-aloud" method in cognitive interface design*. IBM TJ Watson Research Center Yorktown Heights, NY.

- Li, W., Flatla, D. R., & Arndt, F. (2025). Divergent deceptions: Comparative analysis of Deceptive Patterns in iOS and Android apps. *Behaviour & Information Technology*, 1–30. <https://doi.org/10.1080/0144929X.2025.2452359>
- Löbel, A., Schäfer, R., Püschel, H., Güney, E., & Meyer, U. (2024). Access Your Data... If You Can: An Analysis of Dark Patterns Against the Right of Access on Popular Websites. *Privacy Technologies and Policy*, 23–47.
- Lowens, B., Scarnecchia, S., Im, J., Afnan, T., Chen, A., Zou, Y., & Schaub, F. (2025). Misalignments and Demographic Differences in Expected and Actual Privacy Settings on Facebook. *Proceedings on Privacy Enhancing Technologies*, 456–471.
- Luguri, J., & Strahilevitz, L. J. (2021). Shining a Light on Dark Patterns. *Journal of Legal Analysis*, 13(1), 43–109. <https://doi.org/10.1093/jla/laaa006>
- Mathur, A., Acar, G., Friedman, M. J., Lucherini, E., Mayer, J., Chetty, M., & Narayanan, A. (2019). Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites. *Proceedings of the ACM on Human-Computer Interaction*, 3(CSCW), 1–32. <https://doi.org/10.1145/3359183>
- Mathur, A., Kshirsagar, M., & Mayer, J. (2021). What Makes a Dark Pattern... Dark?: Design Attributes, Normative Considerations, and Measurement Methods. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 1–18. <https://doi.org/10.1145/3411764.3445610>
- Mildner, T., Fidel, D., Stefanidi, E., Wozniak, P. W., Malaka, R., & Niess, J. (2025). A Comparative Study of How People With and Without ADHD Recognise and Avoid Dark Patterns on Social Media. *CHI 2025*.

Nielsen Norman Group. (n.d.-a). *Progressive Disclosure*.

<https://www.nngroup.com/articles/progressive-disclosure/>

Nielsen Norman Group. (n.d.-b). *Scrolling and Attention (Jakob Nielsen's Original Research*

Study). <https://www.nngroup.com/articles/scrolling-and-attention-original-research/>

Nielsen Norman Group. (n.d.-c). *Success Rate: The Simplest Usability Metric*.

<https://www.nngroup.com/articles/success-rate-the-simplest-usability-metric/>

Nielsen Norman Group. (n.d.-d). *The Illusion of Completeness: What It Is and How to Avoid It*.

<https://www.nngroup.com/articles/illusion-of-completeness/>

Nielsen Norman Group. (n.d.-e). *Usability Metrics*. <https://www.nngroup.com/articles/usability-metrics/>

Norman, D. (2013). *The design of everyday things: Revised and expanded edition*. Basic books.

Nouwens, M., Liccardi, I., Veale, M., Karger, D., & Kagal, L. (2020). Dark Patterns after the

GDPR: Scraping Consent Pop-ups and Demonstrating their Influence. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1–13.

<https://doi.org/10.1145/3313831.3376321>

Obar, J. A., & Oeldorf-Hirsch, A. (2020). The biggest lie on the Internet: Ignoring the privacy policies and terms of service policies of social networking services. *Information,*

Communication & Society, 23(1), 128–147.

<https://doi.org/10.1080/1369118X.2018.1486870>

Robinson, E. P., & Zhu, Y. (2020). Beyond “I Agree”: Users’ Understanding of Web Site Terms of Service. *Social Media + Society*, 6(1), 2056305119897321.

<https://doi.org/10.1177/2056305119897321>

- Schäfer, R., Sahabi, S., Brocker, A., & Borchers, J. (2024). Growing Up With Dark Patterns: How Children Perceive Malicious User Interface Designs. *Proceedings of the 13th Nordic Conference on Human-Computer Interaction*.
<https://doi.org/10.1145/3679318.3685358>
- Sharp, H., Preece, J., & Rogers, Y. (2023). *Interaction Design: Beyond Human-Computer Interaction* (5th edition). Wiley.
- Shneiderman, B., Plaisant, C., Cohen, M., Jacobs, S., Elmqvist, N., & Diakopoulos, N. (2016). *Designing the User Interface: Strategies for Effective Human-Computer Interaction* (6th ed.). Pearson.
- Steinfeld, N. (2016). “I agree to the terms and conditions”: (How) do users read privacy policies online? An eye-tracking experiment. *Computers in Human Behavior*, 55, 992–1000.
<https://doi.org/10.1016/j.chb.2015.09.038>
- Tran, V. H., Mehrotra, A., Sharma, R., Chetty, M., Feamster, N., Frankenreiter, J., & Strahilevitz, L. (2024). Dark Patterns in the Opt-Out Process and Compliance with the California Consumer Privacy Act (CCPA). *CHI 2025*.
- Utz, C., Degeling, M., Fahl, S., Schaub, F., & Holz, T. (2019). (Un)informed Consent: Studying GDPR Consent Notices in the Field. *Proceedings of the 2019 ACM SIGSAC Conference on Computer and Communications Security*, 973–990.
<https://doi.org/10.1145/3319535.3354212>
- Zac, A., Huang, Y.-C., von Moltke, A., Decker, C., & Ezrachi, A. (2025). Dark patterns and online consumer vulnerability. *Behavioural Public Policy*, 1–50.